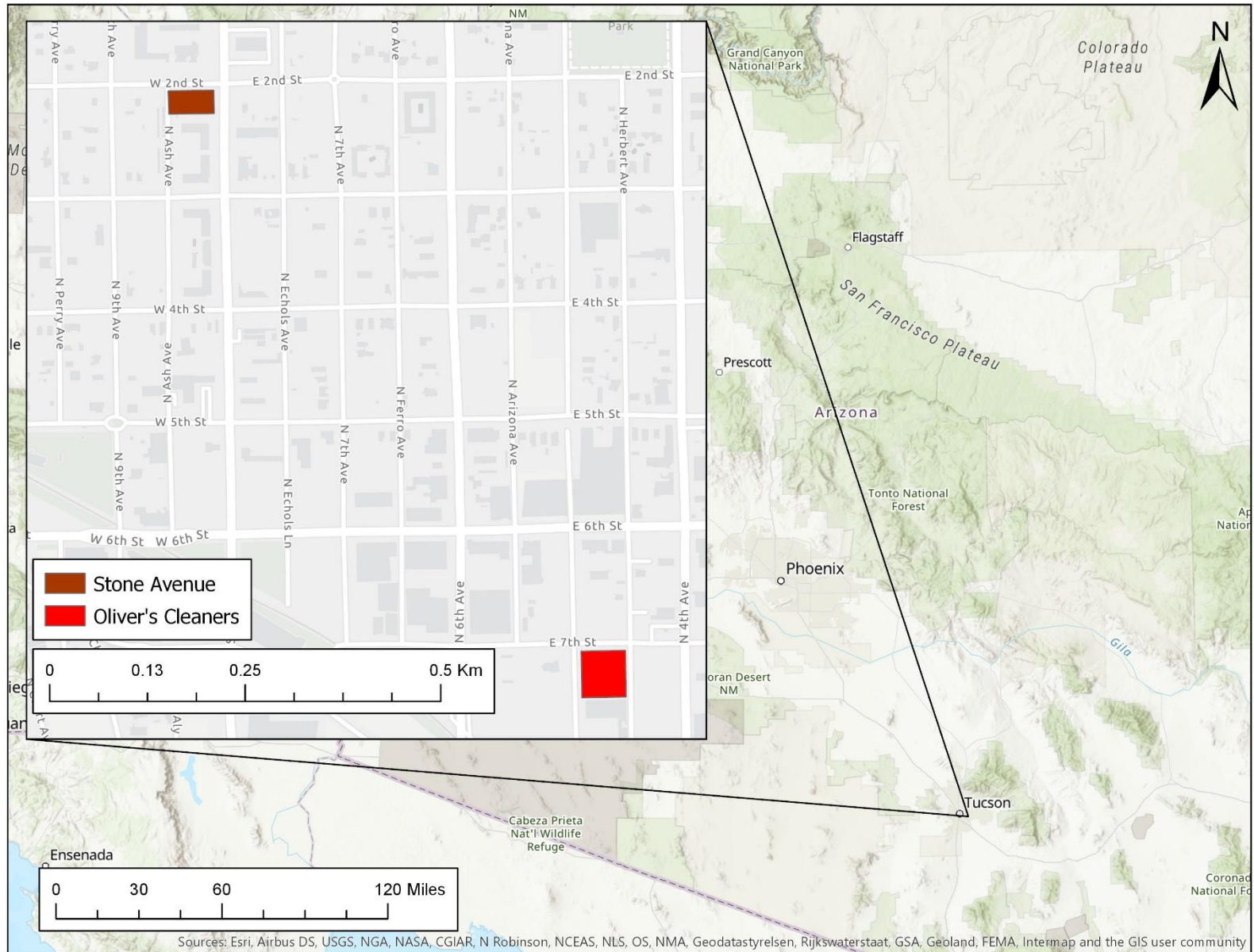


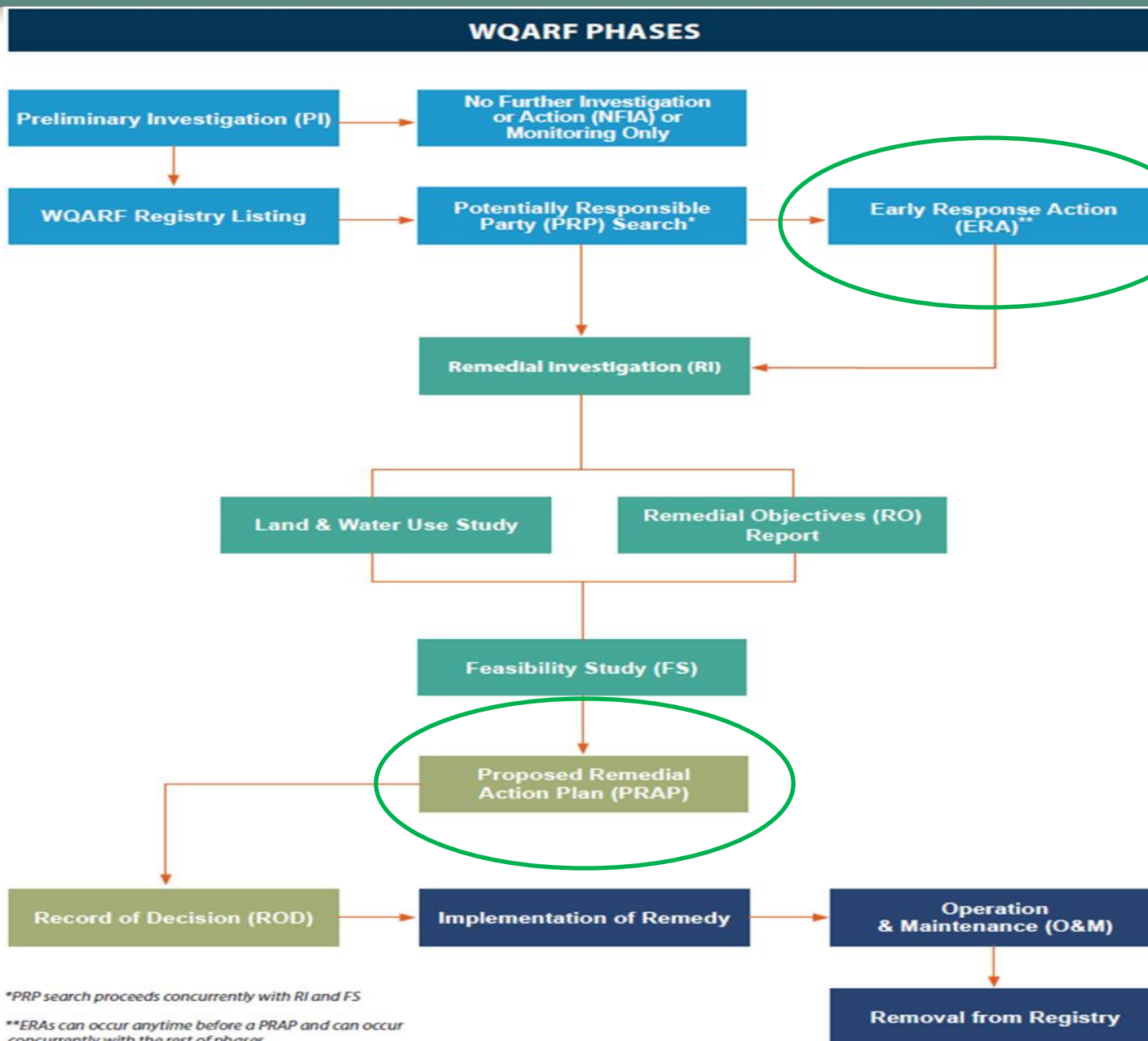


7th Street and Arizona Avenue (7AZ) WQARF Site

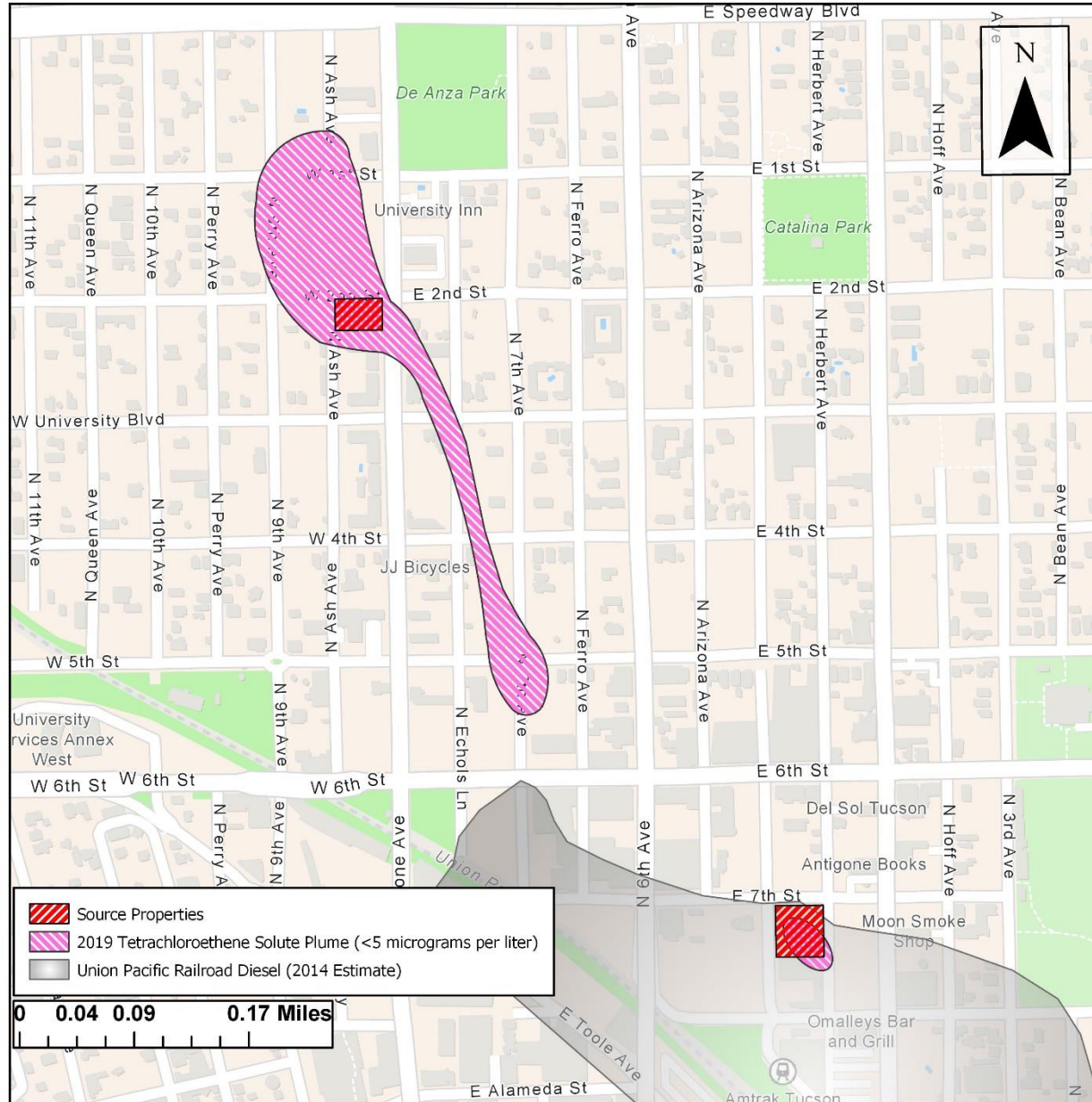
Joshua R Campbell
Project Manager

7th Street and Arizona Avenue Source Areas

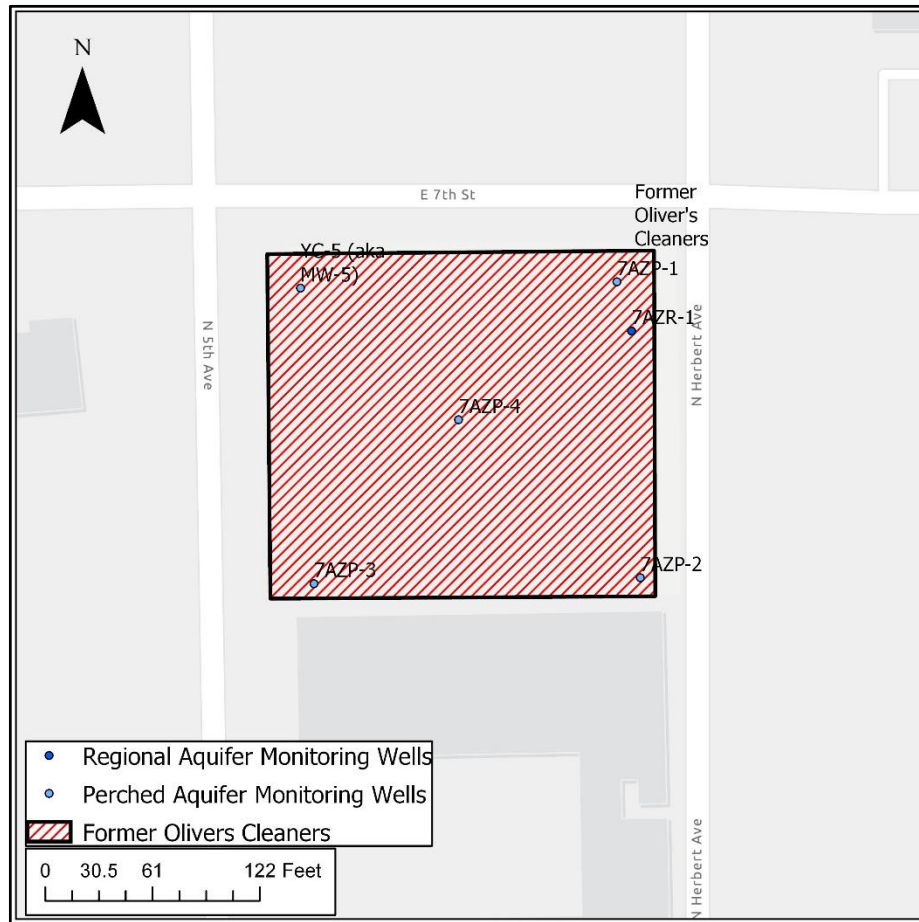




7th Street and Arizona Avenue WQARF Site Area

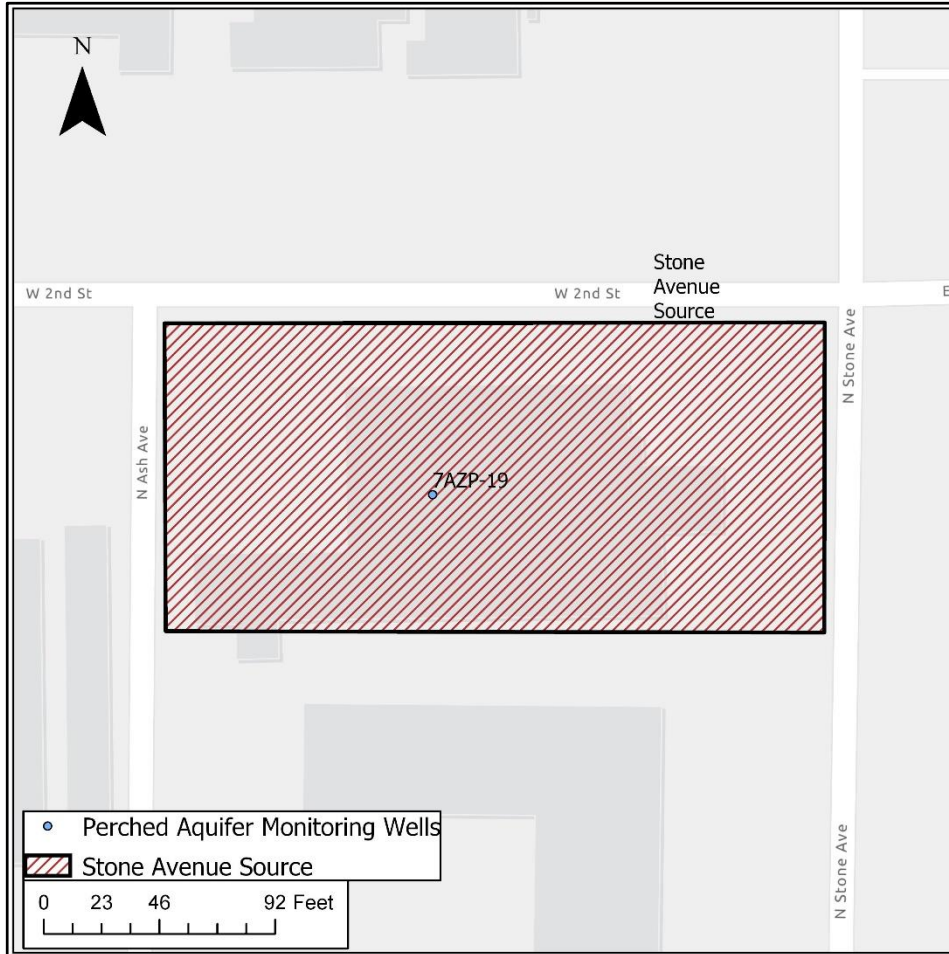


7th Street and Arizona Avenue– Oliver's Cleaners Source



- 1927: First cleaner opened at 300 E Seventh Street.
- 1928-1989: Dry cleaner operations at site under various owners and names.
- 1989: Underground storage tanks (UST) for solvents at site abandoned in place. Building destroyed in fire.
- 1991: All USTs removed from site.
- 1992: Well at site found to contain per- and trichloroethylene (PCE and TCE).
- 2000: Site added to WQARF Registry.
- 2006: Soil vapor extraction (SVE) system began operation.
- 2009: SVE system shutdown after removal of 770 pounds of contaminants.
- 2011: Follow-up soil gas investigation showed no exceedances of Soil Remediation Limits (SRL).
- 2020: Soil gas sampling shows slight rebound in PCE concentrations.

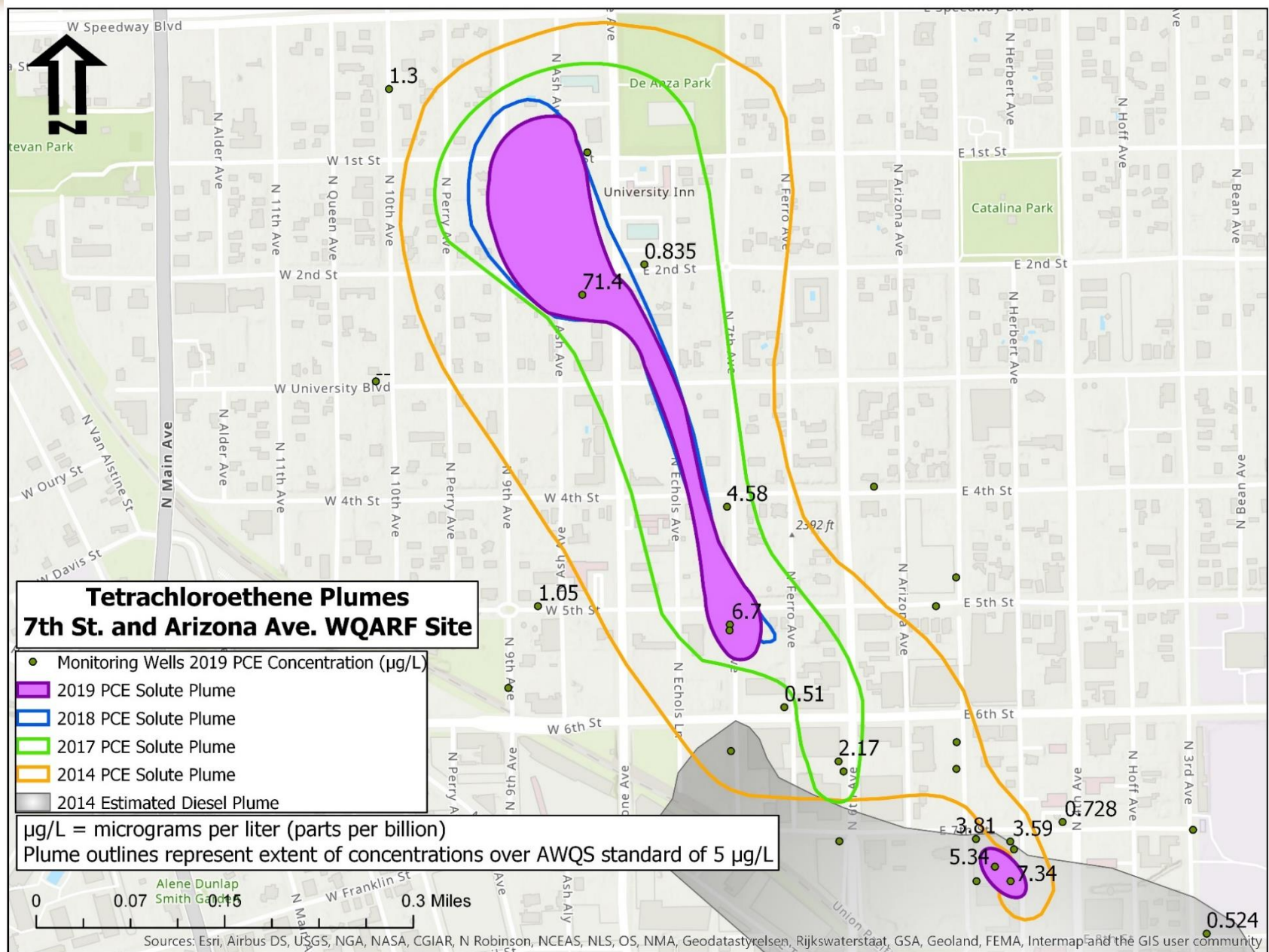
7th Street and Arizona Avenue– Stone Ave Source



- 1950-1989: Site variously operated as car dealership, service station, or repair shop.
- 1996-2001: Site operated as dry cleaner under several owners/operators.
- 2001-2014: Site operated as succession of retail businesses.
- 2013: City of Tucson (CoT) Phase 1 Environmental Site Assessment revealed previous PCE detections in soil from 1999.
- 2014: CoT site investigation collects soil and groundwater samples. PCE detections above SRL and/or Aquifer Water Quality Standards (AWQS).
- 2014: Stone Avenue Source added to 7AZ WQARF site.
- 2017-2019: SVE system captures >1000lbs of volatile organic compounds.
- 2019-2020 Rebound sampling conducted.

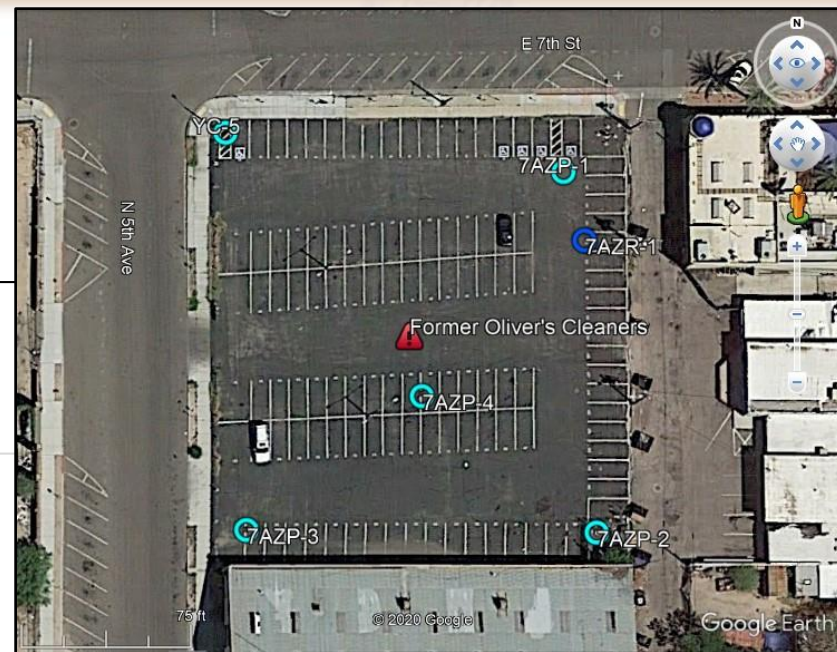
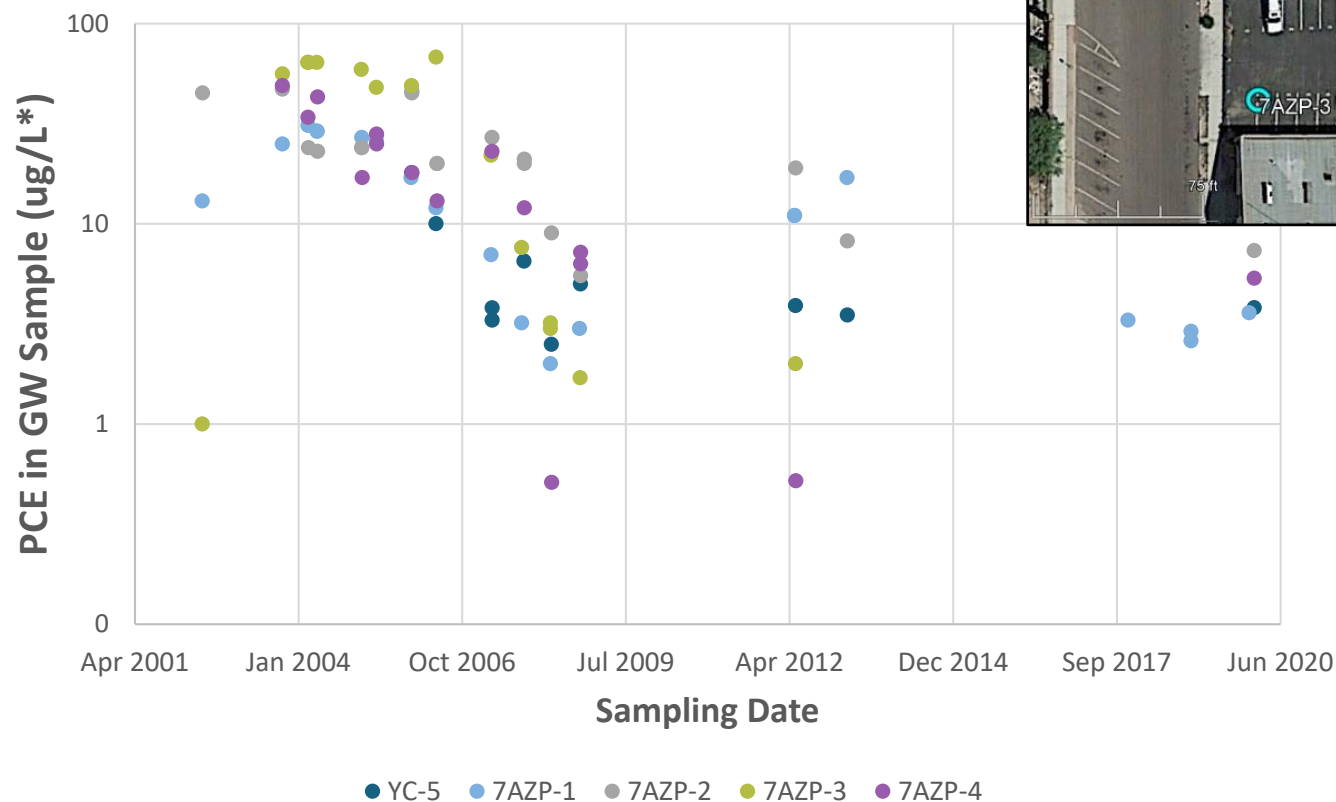
- Total cost of remediation so far:
 - Since Site was added to WQARF Registry (2000)
 - Includes work funded through the end of Fiscal Year 2020 (June 30, 2020)
 - \$2.64 million total costs

PCE in the Perched Aquifer



Groundwater Contaminants: Oliver's Cleaners

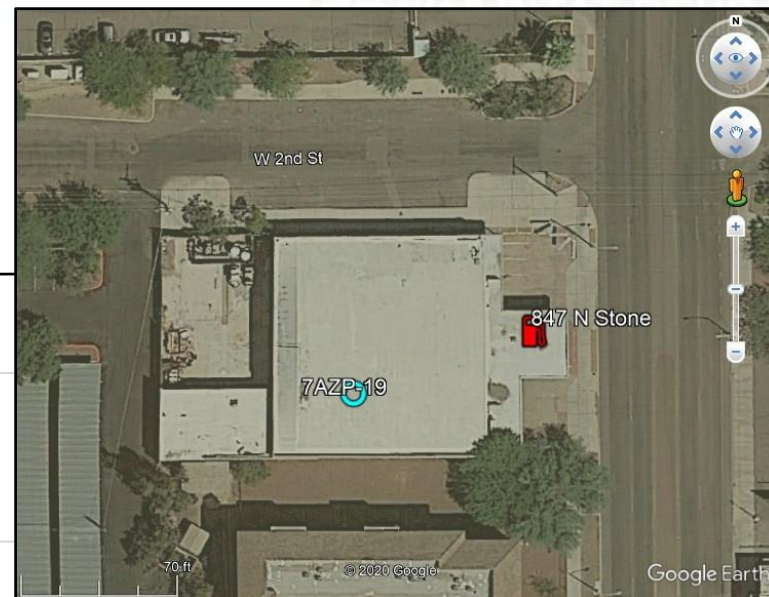
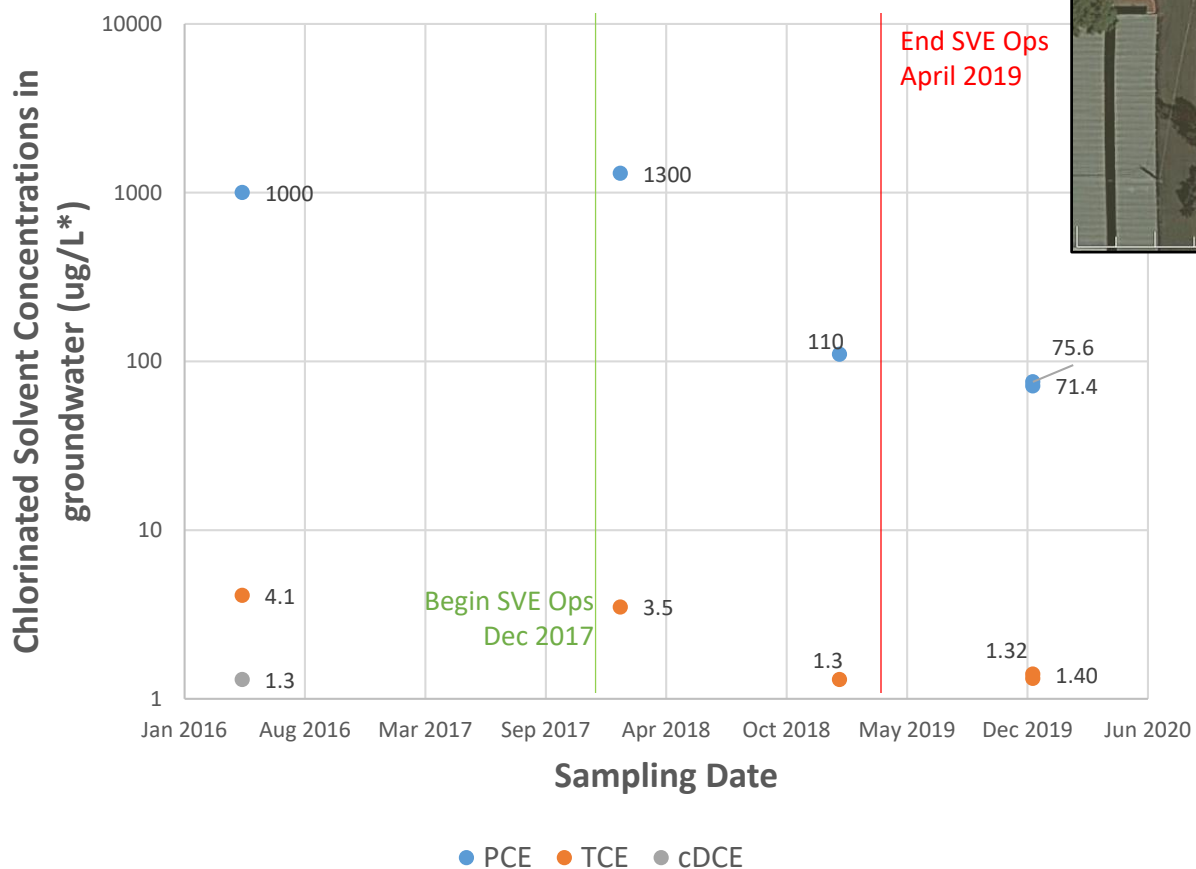
PCE Concentrations in former
Oliver's Cleaners GW Wells



* $\mu\text{g/L}$ = micrograms per
liter of water , or parts
per billion

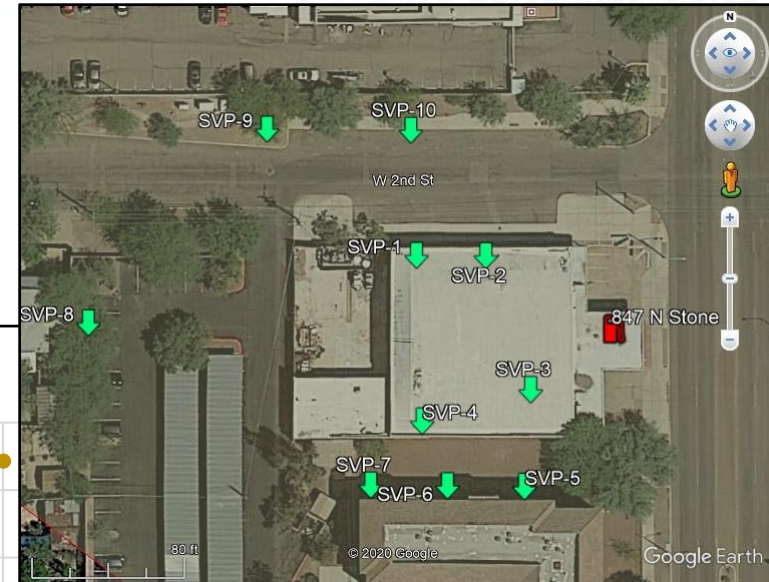
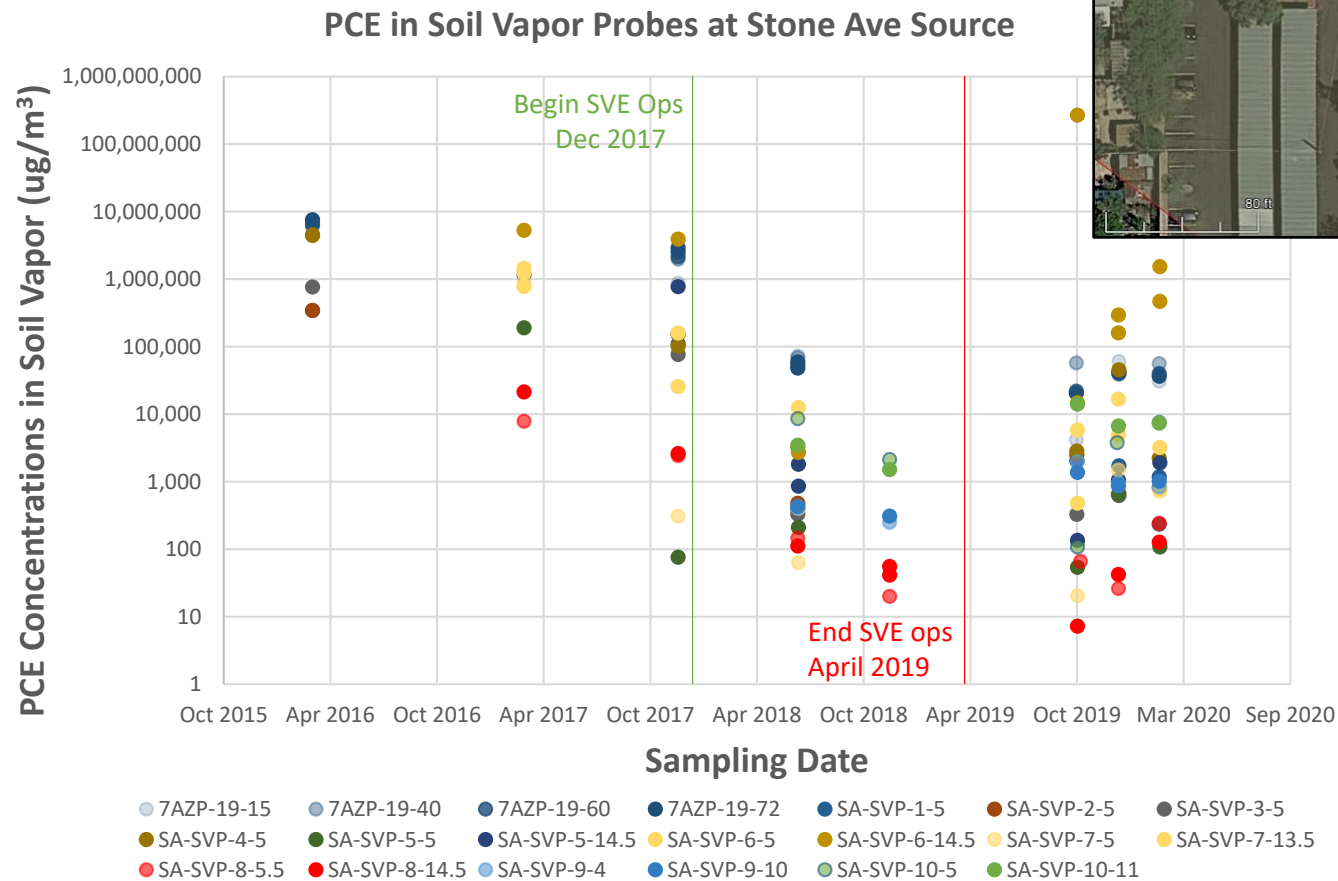
Groundwater Contaminants: Stone Ave. Source

Chlorinated Solvent Concentrations in 7AZP-19



*µg/L = micrograms per liter
of water, or parts per billion

Soil Vapor at Stone Ave Source

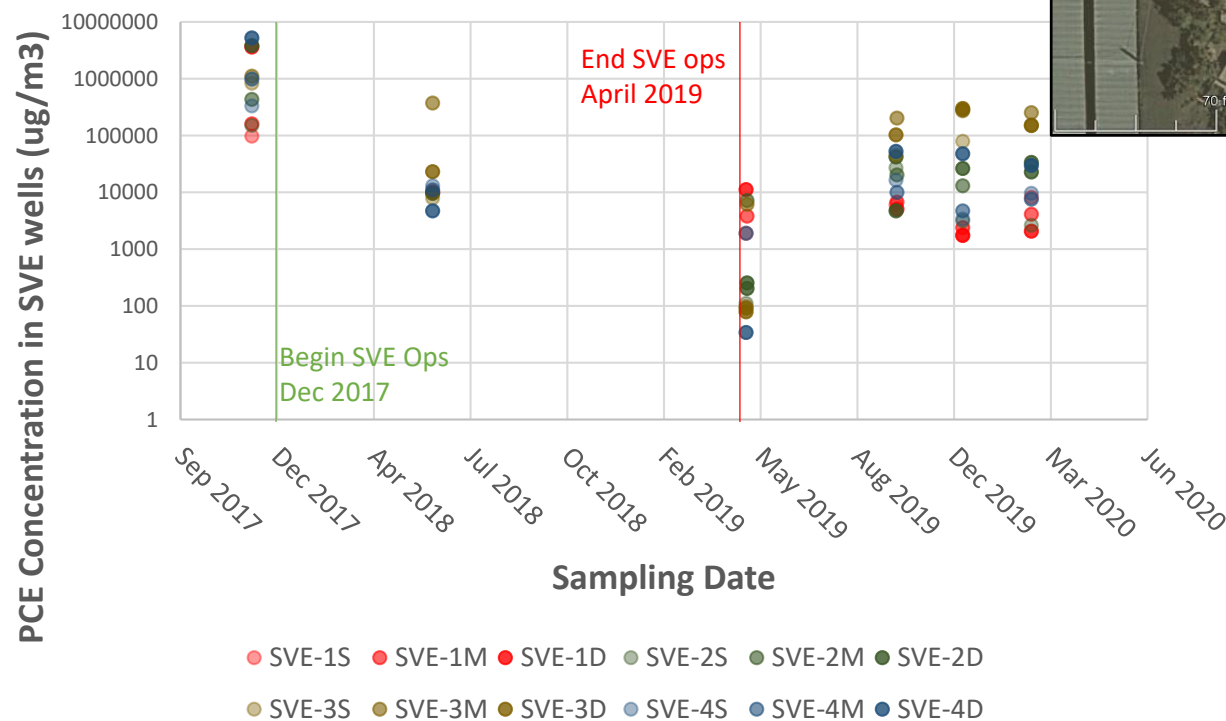


* $\mu\text{g}/\text{m}^3$ = micrograms of PCE per cubic meter of soil vapor, or parts per billion

Soil Vapor at Stone Ave Source



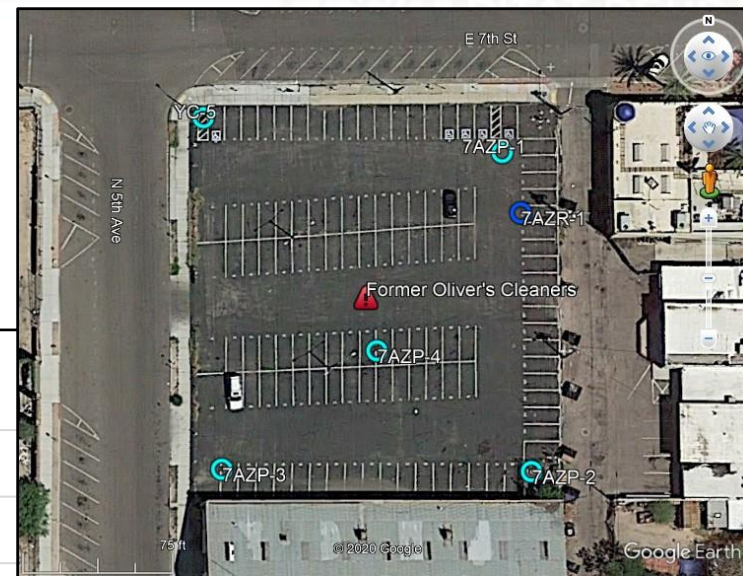
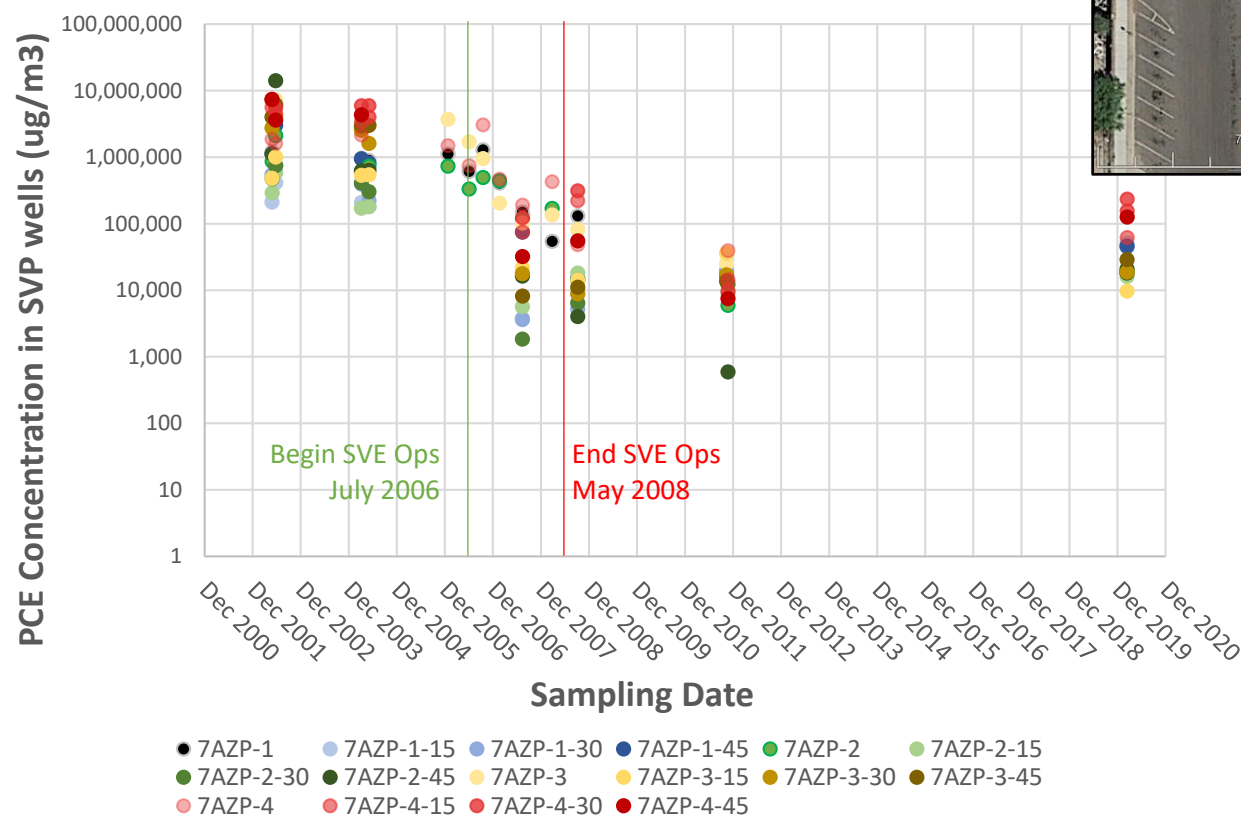
PCE in SVE Wells at Stone Ave Source



* $\mu\text{g}/\text{m}^3$ = micrograms of PCE
per cubic meter of soil vapor, or
parts per billion

Soil Vapor at Oliver's Cleaners Source

PCE in SVPs at former Oliver's Cleaner Source



* $\mu\text{g}/\text{m}^3$ = micrograms of PCE
per cubic meter of soil vapor, or
parts per billion

- Proposed Remedial Action Plan (PRAP) originally published in 2014
 - ...before discovery of Stone Ave source later in 2014.
 - Called for the use of soil vapor extraction, paired with air sparging, to remove VOCs at the Oliver's Cleaners source.
 - Air sparging forces air into the subsurface, volatilizing VOCs from soil, diesel and groundwater.
 - Adding air also allows bacteria present in the subsurface to break down contaminants faster than they would naturally.
 - Soil vapor extraction then pulls soil vapor to the surface, when VOCs are captured using granular activated carbon.

- PRAP-Addendum (2020) covers proposed remedies at Stone Ave source.
 - Soil vapor extraction will be used to remove contaminated soil vapor.
 - VOCs will be captured by granular activated carbon, as at the Oliver's Cleaners source.
 - Air **S**parking is not planned at the Stone Avenue source; the lack of diesel product in the subsurface makes it unnecessary.
 - Active treatment planned for 5 years.
- Monitoring of natural contaminant breakdown (attenuation) is budgeted for 30 years across the site.
- Document available on WQARF public notice site:
<https://azdeq.gov/public-notice-7th-street-and-arizona-avenue-wqarf-site-prap-addendum>

7th Street and Arizona Ave. – Projected Costs

Capital Cost Subtotal	\$ 1,395,129
Ops & Maint Subtotal	\$ 1,677,049
Monitoring Subtotal	\$ 7,230,690
Site Total	\$ 10,302,869

Payment Period	ADEQ Fiscal Year	Capital Costs (Olivers)	Ops & Maint (Olivers)	Capital Costs (Stone)	Ops & Maint (Stone)	Monitoring (Site-Wide)
0	2021	\$ 47,655	\$ -	\$ 141,035	\$ 232,330	\$ 151,984
1	2022	\$ 201,265	\$ 86,651	\$ -	\$ 187,140	\$ 156,543
2	2023	\$ -	\$ 168,752	\$ -	\$ 187,140	\$ 161,240
3	2024	\$ -	\$ 174,236	\$ -	\$ 134,775	\$ 166,077
4	2025	\$ -	\$ 179,900	\$ -	\$ 134,775	\$ 171,059
5	2026	\$ -	\$ 191,350	\$ -	\$ -	\$ 176,191
6	2027	\$ -	\$ -	\$ -	\$ -	\$ 181,477
7	2028	\$ -	\$ -	\$ -	\$ -	\$ 186,921
8	2029	\$ -	\$ -	\$ -	\$ -	\$ 192,528
9	2030	\$ -	\$ -	\$ -	\$ -	\$ 198,304
10	2031	\$ -	\$ -	\$ -	\$ -	\$ 204,253
11	2032	\$ -	\$ -	\$ -	\$ -	\$ 210,381
12	2033	\$ -	\$ -	\$ -	\$ -	\$ 216,692
13	2034	\$ -	\$ -	\$ -	\$ -	\$ 223,193
14	2035	\$ -	\$ -	\$ -	\$ -	\$ 229,889
15	2036	\$ -	\$ -	\$ -	\$ -	\$ 236,786
16	2037	\$ -	\$ -	\$ -	\$ -	\$ 243,889
17	2038	\$ -	\$ -	\$ -	\$ -	\$ 251,206
18	2039	\$ -	\$ -	\$ -	\$ -	\$ 258,742
19	2040	\$ -	\$ -	\$ -	\$ -	\$ 266,504
20	2041	\$ -	\$ -	\$ -	\$ -	\$ 274,500
21	2042	\$ -	\$ -	\$ -	\$ -	\$ 282,735
22	2043	\$ -	\$ -	\$ -	\$ -	\$ 291,217
23	2044	\$ -	\$ -	\$ -	\$ -	\$ 299,953
24	2045	\$ -	\$ -	\$ -	\$ -	\$ 308,952
25	2046	\$ -	\$ -	\$ -	\$ -	\$ 318,220
26	2047	\$ -	\$ -	\$ -	\$ -	\$ 327,767
27	2048	\$ -	\$ -	\$ -	\$ -	\$ 337,600
28	2049	\$ -	\$ -	\$ -	\$ -	\$ 347,728
29	2050	\$ 387,470	\$ -	\$ 617,705	\$ -	\$ 358,160
Life Cycle Subtotals		\$ 636,389	\$ 800,889	\$ 758,740	\$ 876,160	\$ 7,230,690
Capital Cost Subtotal		\$ 1,395,129				
Ops & Maint Subtotal		\$ 1,677,049				
Monitoring Subtotal		\$ 7,230,690				
Site Total		\$ 10,302,869				

- Please submit comments regarding the PRAP-A:
 - by email to: campbell.joshua@azdeq.gov
Subject Line “7th St and AZ Ave WQARF PRAP-A Comments”
 - by postal mail to:
Arizona Department of Environmental Quality
Attn: Joshua Campbell
400 W. Congress Street Suite 433
Tucson, AZ 85701
- Please note that the ADEQ Tucson office is temporarily closed and in-person delivery of comments is not available at this time.

Questions? Comments?

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Barbara Boschert

Community Involvement Coordinator

(602) 771-8149

boschert.barbara@azdeq.gov

Thank You!